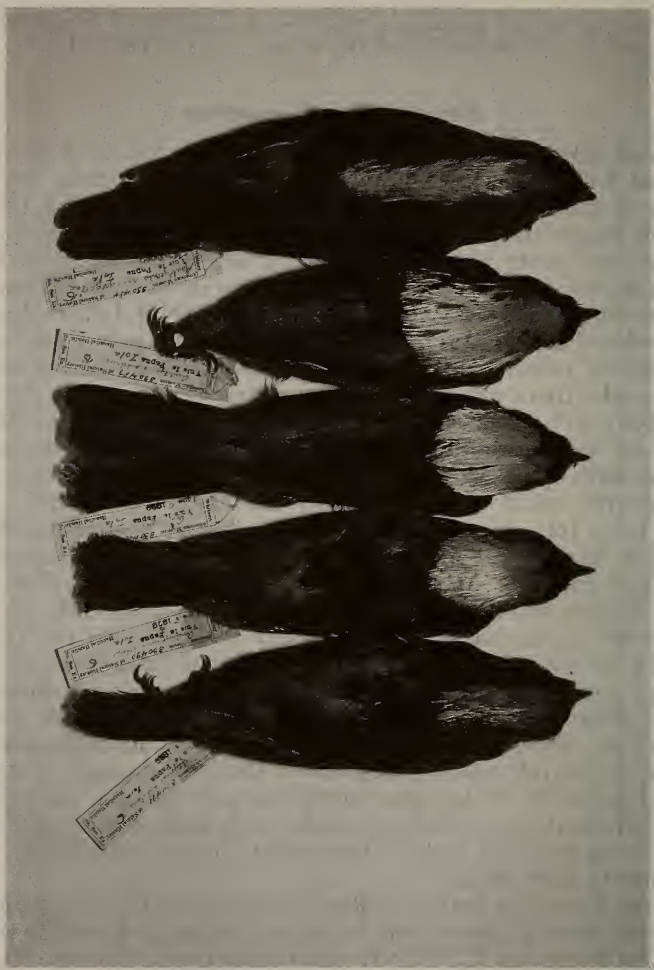

Figure 2. Dorsal appearance of AMNH specimens of adult males of: *Amblyornis macgregoriae* (33048), A hybrid *A. macgregoriae* × *A. subalaris* (330487, lacking tail) and three *A. subalaris* (330488, 330490, 330491) seen from top to bottom respectively. Note intermediate crest length and dorsal markings of the hybrid.

area (Table 1), as too great a coincidence to be indicative of intraspecific variation. Hence we consider it an *A. macgregoriae* × *A. subalaris* hybrid individual exhibiting stronger evidence of the genes of both putative parents than the specimen (AM O. 26264) of unknown locality thought also to represent this hybrid combination (Schodde & McKean 1973). Our measurements of both crest from posterior base and exposed crest support this conclusion and are consistent with measurements of both putative parent species presented by Diamond

(1972) and Schodde & McKean (1973). We suppose it was this AMNH hybrid specimen that Mayr & Rand (1937) noted as being less typical of Streaked Bowerbirds (see above).

Male gardener bowerbirds probably require at least five or six years to acquire adult plumage, as other sexually dimorphic bowerbird species are known to do (Disney 1970, Disney & Lane 1971, Vellenga 1980, Frith & Frith unpubl. data). Adult-plumaged male gardener bowerbirds would therefore represent but a small proportion of their species populations. It can therefore be appreciated that hybrid individuals in female (and immature male) plumage would be difficult to identify from their appearance in museum specimens. Genetic 'fingerprinting' studies in areas where the two species may meet clearly have the potential to prove rewarding as it would seem that hybridization may be more common in the family than has been previously conceded (Frith & Frith 1995).

Macgregor's and Streaked Bowerbirds are for the most part separated by mutually exclusive altitudinal ranges and associated differences in habitat. While specimens demonstrate that the two species occasionally hybridize in the wild, providing clear evidence that they are at some places sympatric (*sensu stricto* cf. Amadon & Short 1992), they are better described as parapatric (Mayr 1963: 672, Wilson 1975, Kemp 1995). Specimens in the AMNH show this is clearly the case in the Iola and Deva Deva area, and it may well be the case elsewhere, potentially including the upper Aroa River (Frith 1970). It remains to be assessed whether parapatry occurs within natural altitudinal ranges/habitats, or if it may only result from habitat modification caused by agriculture (Gilliard in Mayr & Gilliard 1952, Gilliard 1959) or more severe (geological) habitat destruction.

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Range extensions and new records for forest birds in southern Rio Grande do Sul, Brazil

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The southernmost distributional limits of forest birds in southern Brazil are particularly evident in the State of Rio Grande do Sul, where the Atlantic Forest has its last domains. Distributional patterns of

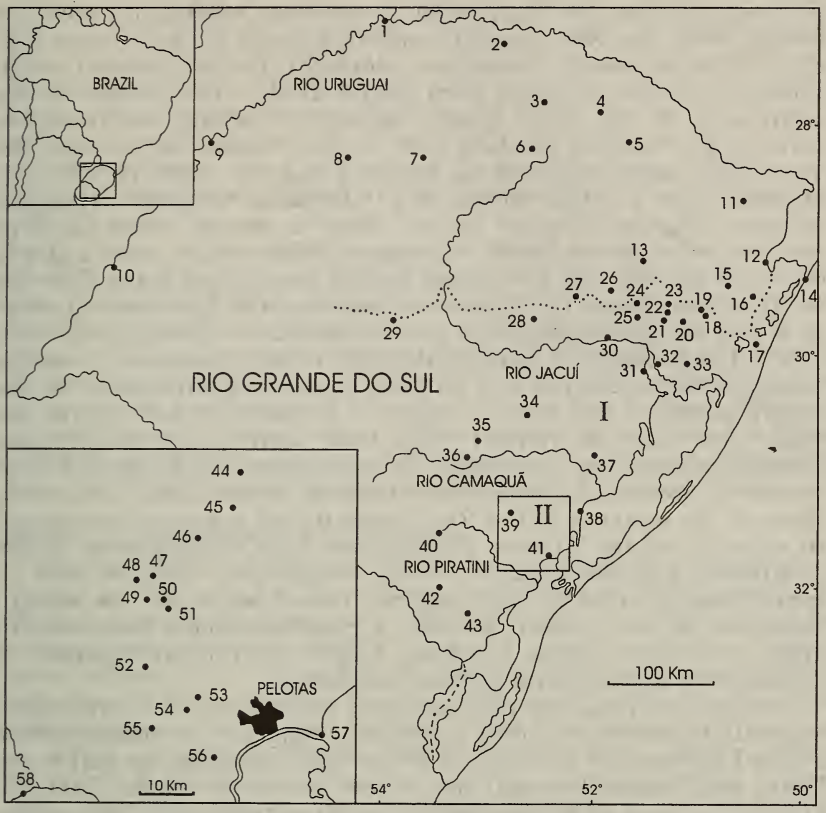

Figure 1. Map showing localities mentioned in text. 1, Turvo state reserve; 2, Nonoai; 3, Erebango; 4, Sananduva; 5, Lagoa Vermelha; 6, Passo Fundo; 7, Panambi (Nova Wurtemburg); 8, Santo Ângelo; 9, Garruchos; 10, Itaqui; 11, Bom Jesus; 12, Aparados da Serra national park; 13, Farroupilha; 14, Torres; 15, São Francisco de Paula; 16, Barra do Ouro; 17, Osório; 18, Arroio Grande; 19, Taquara; 20, Campo Bom; 21, Sapucaia do Sul; 22, Novo Hamburgo (Hamburgo Velho); 23, Sapiranga; 24, São Sebastião do Caí; 25, Montenegro (Monte Negro); 26, Poço das Antas; 27, Cruzeiro do Sul; 28, Santa Cruz do Sul; 29, Santa Maria; 30, Triunfo; 31, Guaíba (Pedras Brancas); 32, Porto Alegre; 33, Viamão; 34, Encruzilhada do Sul; 35, Rincão dos Pereira; 36, Santana da Boa Vista; 37, Camaquã; 38, São Lourenço (do Sul); 39, Canguçu; 40, Pinheiro Machado; 41, Pelotas; 42, Herval; 43, Arroio Grande; 44, Taquaral; 45, Arroio do Padre; 46, Arroio Andrade; 47, Parque Farroupilha; 48, Rincão da Caneleira; 49, Arroio Cadeia; 50, Arroio dos Porcos; 51, Santa Eulália; 52, Santo Amor; 53, Arroio Moreira; 54, Arroio Padre Doutor; 55, Cerro das Almas; 56, UFPEL botanical garden; 57, Pontal da Barra (on Laguna dos Patos littoral); 58, Rio Piratini. I, Serra do Herval; II, Serra dos Tapes. The dotted line represents the Serra Geral escarpment.

forest birds in Rio Grande do Sul identified by Belton (1984, 1985) indicate distinct forested areas as limits for some groups of species. In this way, the northeastern littoral coastal forests are considered the southern limit for some lowland species (e.g. *Formicarius colma*,

Myrmotherula unicolor, *Platyrinchus leucoryphus*), whereas the northern forests, along the Rio Uruguai, constitute limits for other ones (e.g. *Pteroglossus castanotis*, *Drymophila rubricollis*, *Colonia colonus*) which apparently reach the state from inland Brazil. The forests of the escarpment of the Serra Geral highlands, marking the transition between the forested northern half of Rio Grande do Sul and the more open south, although seemingly being the southern limit for predominantly montane species (e.g. *Chamaeza ruficauda*, *Hylopezus nattereri*, *Piprites pileatus*) do not show a precise effect on bird distribution, as Belton (1984: 391) states: "Most species with ranges to the south and the west are limited by this barrier, but many from the north are not affected by it, either not reaching it in significant numbers or, if they do, passing beyond it into the central trough or southeastern hills". The presence of forest birds south of the escarpment is mostly related to the occurrence of a formerly continuous forest block on the eastern slopes of Rio Grande do Sul's southeastern hills (Serra dos Tapes and Serra do Herval). This forest unit, poorly studied and virtually unknown to ornithology, is a semideciduous forest of humid climate (Floresta Estacional Semi-Decidual; Brasil 1986). Therefore, although the southern half of Rio Grande do Sul is typically grassland, an appendix of the Atlantic Forest (*sensu lato*) extends south of the escarpment and the adjacent central trough (i.e. south of 30°S to approximately 31°40′S), covering the humid slopes of the eastern watershed of Rio Grande do Sul's Crystalline Shield (southeastern hills), a deeply eroded (medium height 300 m) prolongation of southeastern Brazil's Serra do Mar mountains.

Ihering (1899) was the first author to mention the few forest birds known from this region, citing specimens obtained in the municipalities of São Lourenço (31°22′S, 51°58′W, now São Lourenço do Sul) in the 1880s and Pedras Brancas, the former name of Guaíba (30°07′S, 51°20′W), a town on the northeastern limit of this forest. This author also contested the origin Pelotas (31°45′S, 52°20′W; a city on this forest's southern limit) of specimens from the British Museum's Joyner collection, with which Belton (1984, 1985) agreed. Pinto (1938) reported specimens collected in São Lourenço around 1900, probably obtained within the limits of the semideciduous forest. E. Kaempfer did not collect in São Lourenço, only along the Laguna dos Patos littoral, as stated by Naumburg (1935), but also in the higher part of the municipality (see text on the Hooded Berry-eater *Carpornis cucullatus*). More recently Belton (1984, 1985, 1994) mentions additional forest birds from the southeastern hills, as well as records of other birds from localities already cited above, without however relating their presence to the occurrence of a previously forested area, nowadays extremely fragmented.

Between October 1993 and July 1996, we conducted an ornithological survey in several forest remnants located in the southernmost domains of this former forest region, documenting with tape recordings new records of forest birds that represent substantial southward range extensions (some of these are sight records). In the municipality of Pelotas, 6 forest remnants were studied: Arroio Andrade (31°27′S,

52°28′W; alt. 300 m, 150 ha of primary forest); Arroio do Padre (31°24′S, 52°23′W; alt. 160–180 m, 10 ha of primary forest); Rincão da Caneleira (31°31′S, 52°35′W; alt. 200 m, 10 ha of primary forest); Parque Farroupilha (31°30′S, 52°34′W; alt. 160 m, 10 ha of primary forest); Arroio dos Porcos (31°33′S, 52°32′W; alt. 60 m, 15 ha of primary forest) and Santa Eulália (31°34′S, 52°32′W; alt. 100 m, 20 ha of primary forest). On the border of the municipalities of Pelotas and Morro Redondo we visited Arroio Cadeia (31°33′S, 52°34′W; alt. 100–120 m, 50 ha of primary forest) and Santo Amor (31°40′S, 52°35′W; alt. 100 m, small fragments of mixed primary and secondary growths). In the municipality of São Lourenço the only remnant visited was Taquaral (31°20′S, 52°23′W; alt. 100–200 m, 200 ha of primary forest). All these forest remnants were sporadically visited during the years, with the exception of Arroio Andrade, visited 8 times (covering 22 days) between February 1995 and May 1996. Additional work was done outside the borders of the original forest (*sensu* Brasil 1986), on gallery forests and on an isolated 500 ha forest block at Cerro das Almas (31°46′S, 52°35′W), a small chain of granitic hills with altitudes varying from 100 to 250 m located in the municipality of Capão do Leão.

SHORT-TAILED HAWK *Buteo brachyurus*

Ihering (1899) and Gliesch (1930) recorded this hawk in Rio Grande do Sul at Taquara and Porto Alegre, respectively. More recently, E. Willis observed this species in three different locations along the southern escarpment, while W. Voss and L. R. C. da Silva recorded it twice at Sapucaia do Sul and W. Voss saw a pair in apparent courtship behaviour at Barra do Ouro (Belton 1984). Additionally, W. Voss and others observed this species at Triunfo and São Sebastião do Caí, and G. Bencke found a dead individual at Cruzeiro do Sul (Belton 1994). We found *B. brachyurus* as resident at Arroio Andrade, with up to three individuals recorded in a day, including immatures (observed on 17 February 1996) and black morphs. An immature was seen at Rincão da Caneleira in late January and early February 1995. Two immatures and a black adult were observed at Arroio Cadeia on several days in February 1995. Also recorded at Cerro das Almas and an individual was seen flying over nearby Arroio Moreira gallery forest (31°43′S, 52°28′W) on 16 June 1996. These records represent a southward distributional extension of *c.* 200 km from the southern range limit (i.e. 30°S) marked by Belton (1994).

BARRED FOREST-FALCON *Micrastur ruficollis*

Ihering (1899), Gliesch (1930), Pinto (1938) and Camargo (1962) mentioned specimens from Taquara, Porto Alegre, São Lourenço and Santa Maria, respectively. Besides these, Belton (1984) cites records from scattered localities in the northern highlands and one from the southeastern hills. We found this species throughout the year at Arroio Andrade and also at Santa Eulália on 23 November 1996 and at Taquaral on 5 November 1995. The nearest record (from São Lourenço, just north of the study area) is given by Pinto (1938), based on a specimen collected in 1900.

RUDDY QUAIL-DOVE *Geotrygon montana*

Known in Rio Grande do Sul from scattered points in the state's northern and northeastern sectors and from the central portion of the southeastern hills, north of the Rio Camaquã (Belton 1984). Mentioned from Taquara by Ihering (1899) and Farroupilha and Osório by Camargo (1962). On 1 February 1995 we observed a female sitting on a nest with two chicks at Rincão da Caneleira, and on 21 February 1995 we saw a male at Arroio Andrade. These records extend the known distribution of this species *c.* 100 km to the south.

RUSTY-BARRED OWL *Strix hylophila*

We observed and tape-recorded up to three individuals of this owl on numerous occasions throughout the year in three small forest remnants (Parque Farroupilha, Rincão da Canaleira and Arroio dos Porcos). It is more numerous at Arroio Andrade, with up to six individuals detected. Found by Belton (1984) in northeastern Rio Grande do Sul, primarily above the escarpment and once in the southeastern hills, near Santana da Boa Vista. Ihering (1899) cited this species from Taquara and Pinto (1938) mentioned a specimen from São Lourenço.

SEMI-COLLARED NIGHTHAWK *Lurocalis semitorquatus*

Mentioned for Taquara by Ihering (1899) and Poço das Antas by Gliesch (1930). Belton (1984) reported it as common near the escarpment and in the extreme north, along the Rio Uruguai, with an isolated record for the central highlands and another for the southeastern hills, north of the Rio Camaquã. This species was recorded in November, December and February at Rincão da Canaleira, Arroio Cadeia and Arroio Andrade, which extends the known distribution of this species 100 km southwards.

ASHY-TAILED SWIFT *Chaetura andrei*

First mentioned for Rio Grande do Sul by Camargo (1962), based on a specimen collected in Farroupilha. Belton (1984) recorded this species from the state's northeastern quarter (except the highest areas) and along the escarpment. At Arroio Andrade we observed this swift regularly between October and late March, disappearing from the area in the fall and winter. Some individuals were additionally seen at Taquaral on 5 November 1996. These records represent a southward extension of the known distribution of this species by *c.* 200 km.

RED-BREASTED TOUCAN *Ramphastos dicolorus*

Reported from Taquara by Ihering (1899) and Poço das Antas by Gliesch (1930). Pinto (1938) and Camargo (1962) mentioned specimens collected respectively at Itaqui (on the Rio Uruguai) and Passo Fundo. According to Belton (1984), the distribution of *R. dicolorus* in Rio Grande do Sul follows the escarpment, from Santa Maria to Aparados da Serra national park and also in the extreme and central north, disregarding the specimen exhibited at Camaquã's Museu de Aves Empalhadas, collected at Encruzilhada do Sul, a town in the northern sector of the southeastern hills. Later, Belton (1994) admits the bird's

casual occurrence in the southeastern hills, based on G. Bencke's communication of an individual killed at Encruzilhada do Sul. Haffer (1974), in addition to the localities mentioned above in the northern half of Rio Grande do Sul, marks an additional point south of 32°S (in the municipality of Arroio Grande; 32°15'S, 53°05'W) in his distribution map of *R. dicolorus*. Haffer (*in litt.* 1996) informs us that this point refers to Berlepsch & Ihering's (1885) citation of Arroio Grande (29°45'S, 50°45'W), a locality near Taquara, and not to the southern village of the same name mistakenly shown on the map. In our study area, this species is resident and particularly numerous at Arroio Andrade (groups of up to 20 individuals), where a pair was also seen feeding two young in a cavity 8 m up in an *Alchornea triplinervea* tree, on 22 February 1995. Pairs were also observed at Rincão da Caneleira and Parque Farroupilha. Additionally, there is a specimen at Universidade Católica de Pelotas found dead on a highway near Rincão da Caneleira on 14 June 1994.

WHITE-BROWED WOODPECKER *Piculus aurulentus*

Cited for Taquara by Ihering (1899) and Poço das Antas and Porto Alegre by Gliesch (1930). Specimens are mentioned from Itaqui by Pinto (1938) and Bom Jesus and Passo Fundo by Camargo (1962). Belton (1984) found this woodpecker in the state's northeastern quarter and mentioned two isolated records from the extreme north and the southeastern hills (one north and another south of the Rio Camaquã). We recorded this species in Santo Amor, Rincão da Caneleira and Arroio Andrade, on 25 May 1994, 19 March 1995 and 10 October 1995, respectively.

LINEATED WOODPECKER *Dryocopus lineatus*

Ihering (1899) mentioned this species from Taquara and Gliesch (1930) from Poço das Antas and Santo Ângelo. Subsequently recorded from Bom Jesus (Camargo 1962). Belton (1984) found it in the north, northeast and northwestern sectors of the state and reported it from the southeastern hills, with records from Rincão dos Pereira and São Lourenço, the latter based on a specimen cited by Pinto (1938). A pair were attending a nest with two young, 3 m up in a dead tree at Parque Farroupilha on 2 November 1993 and later, in the same locality, a female was recorded on 25 June 1994. An individual was observed at Arroio Andrade on 27 March 1995.

ROBUST WOODPECKER *Campephilus robustus*

We found this species only at Arroio Andrade, where a small family party (adult pair and young female) was initially observed on 21 February 1995. Isolated individuals were later seen during the year and the female's voice was recorded on two occasions. The nearest previous records are for the foot of the escarpment, at Taquara (Ihering 1899) and Poço das Antas (Gliesch 1930), *c.* 250 km to the north. Additionally mentioned for Santo Ângelo by Gliesch (1930) and Bom Jesus by Camargo (1962). Belton (1984) cited scattered records from the high northeast, extreme north and Garruchos, considering this species rare.

WHITE-THROATED WOODCREEPER *Xiphocolaptes albicollis*

Common resident at Arroio Andrade, the only forest remnant where it was found. Belton (1994) marked its distribution north of 30°S, doubting the origin Camaquã of the specimen at Museu de Aves Empalhadas of Camaquã and, despite G. Bencke's voice-based winter record from Santa Cruz do Sul, in August 1990, considers that this species is possibly a summer resident in Rio Grande do Sul, which is not confirmed by our records. Previously mentioned from sparse localities in the northern half of Rio Grande do Sul: Taquara (Ihering 1899), Itaqui (Pinto 1938), Bom Jesus and Osório (Camargo 1962).

PLANALTO WOODCREEPER *Dendrocolaptes platyrostris*

We found this species in 7 forest remnants (Rincão da Caneleira, Parque Farroupilha, Arroio Andrade, Arroio dos Porcos, Arroio Cadeia and Santa Eulália), both in primary and in old and recent secondary growths. Also recorded further south, outside the limits of the originally forested region, in gallery forests along the Rio Piratini (31°51′S, 52°50′W). According to Belton (1984), the distribution of this species in Rio Grande do Sul covers primarily the northern half of the state, with only one record from the southeastern hills, just south of the Rio Camaquã. Mentioned from Taquara (Ihering 1899), Itaqui (Pinto 1938), Santo Ângelo and Porto Alegre (Gliesch 1930).

RUFOUS-CAPPED SPINETAIL *Synallaxis ruficapilla*

Known in Rio Grande do Sul north from 30°S as far as Santa Maria to the west and west across the state north of 28°30′S (Belton 1984). Besides citing it from Taquara, Ihering (1899) mentioned a record south of 30°S, from Pedras Brancas, overlooked by modern authors. Pinto (1938) recorded this spinetail from Nova Wurtemburg (now Panambi) and Camargo (1962) from Farroupilha. Recorded regularly at Arroio Andrade, primarily along a clearing with dense undergrowth, where we tape-recorded it twice, and also in a bamboo thicket. Additionally found at Cerro das Almas. Our records represent a southward range extension of *c.* 150 km from the historical record of Pedras Brancas.

SHORT-TAILED ANTTHRUSH *Chamaeza campanisona*

Recorded by Belton (1985) in forests along the escarpment, central trough (east of Santa Maria) and in the northern sector above 28°30′S. Previously known from Taquara, Pedras Brancas (Ihering 1899), Porto Alegre (Gliesch 1930), Novo Hamburgo (Pinto 1938), Erebango, Sananduva, Sapiranga (Naumburg 1939) and Santa Maria (Camargo 1962). A recent record from gallery forests of the Rio Camaquã in the municipality of Canguçu in the southeastern hills is given by G. Bencke (Belton 1994). This species was recorded only in the larger forest fragments (Arroio Andrade and Taquaral), being usually heard throughout the year.

RUFOUS GNATEATER *Conopophaga lineata*

This species was recorded in 6 forest remnants of our study area in the southeastern hills (Rincão da Caneleira, Parque Farroupilha, Arroio

Andrade, Arroio dos Porcos, Arroio Cadeia and Santo Amor), being an uncommon resident. Also found at sea level in swampy forests of Pontal da Barra marsh (31°47′S, 52°14′W) and nearby sites along Laguna dos Patos in the municipality of Pelotas, where this gnateater is a scarce resident. Previously recorded in Rio Grande do Sul from localities in the state's northern half. Ihering (1899) mentioned it from Taquara and Gliesch (1930) from Porto Alegre. Naumburg (1937) reported specimens collected by E. Kaempfer at Hamburgo Velho (nowadays Novo Hamburgo), Sananduva, Nonoai, Sapiranga and Santa Cruz. Pinto (1938) cited it from Novo Hamburgo and Camargo (1962) from Farroupilha, Porto Alegre and Viamão. According to Belton (1985), the distribution of *C. lineata* in the state is restricted to the area north of the central trough, east of 54°W, with sparse records to the west. Our records represent a southward extension of the known distribution of this species by *c.* 200 km.

MOUSE-COLOURED TAPACULO *Scytalopus speluncae*

This species was recorded in all studied forest remnants; it is particularly abundant at Cerro das Almas, with up to twelve individuals recorded in a forest patch of less than 5 ha. Occurs at altitudes of about 10 m above sea level near Cerro das Almas and in Arroio Padre Doutor gallery forest (31°44′S, 52°29′W). First mentioned from Rio Grande do Sul by Camargo (1962), based on specimens collected in Bom Jesus and Farroupilha. Belton (1985) recorded *S. speluncae* only in the state's extreme north and along the eastern portion of the top of the escarpment, and also found an individual near Pinheiro Machado, *c.* 100 km westward of our study site.

PLANALTO TYRANNULET *Phyllomyias fasciatus*

This summer resident is mentioned from the vicinity of the northeastern escarpment and the central part of the state, from the Santa Catarina border to the central trough, north of 30°S, also with a record from the southeastern hills near Santana da Boa Vista, where it was found by E. Willis (Belton 1985). Previously known in Rio Grande do Sul only from Taquara (Ihering 1899). We found this species most frequently at Arroio Andrade and also at Rincão da Caneleira, Arroio do Padre and Taquaral remnants, always in spring and summer. These records represent a southward extension of *c.* 100 km from the site of E. Willis's record.

ROUGH-LEGGED TYRANNULET *Phyllomyias burmeisteri*

An unseen bird calling in the canopy of Arroio Cadeia forest was tape-recorded on 3 September 1995 and later identified by José Fernando Pacheco and Bret Whitney as this species. Later heard and tape-recorded at Arroio Andrade on 9 October 1995 and 12 May 1996. Belton (1985) recorded this species seven times in scattered localities of Rio Grande do Sul, north of 29°S (extreme north, northeast and northwest). Our records represent a southward extension of *c.* 300 km in the known distribution of *P. burmeisteri*.

GREENISH TYRANNULET *Phyllomyias virescens*

We usually found only one pair of this species in the smaller forest remnants studied (Rincão da Caneleira, Arroio Cadeia, Arroio dos Porcos and Santo Amor) and up to four pairs in the larger ones (Arroio Andrade and Taquaral), regularly tape-recording its voice. Belton (1985) cited only four records from Rio Grande do Sul, three from the top of the escarpment in the northeast and one from Garruchos, in the extreme west, and stated that Kaempfer collected 13 specimens from the north-central sector in 1928–1929. The nearest previous record is located *c.* 300 km to the north of our study area.

YELLOW-OLIVE FLYCATCHER *Tolmomyias sulphurescens*

We regularly recorded this flycatcher in all forest fragments studied, including Cerro das Almas. Also found in gallery forests of Rio Piratini and Arroio Moreira and occasionally in forest patches on the coastal plain, at the botanical garden of Universidade Federal de Pelotas (31°48′S, 52°25′W). Previously known in Rio Grande do Sul north of the central trough (Belton 1985), including Porto Alegre (Gliesch 1930, Camargo 1962), São Francisco de Paula, Campo Bom, Sananduva, Sapiranga, Lagoa Vermelha and Nova Wurtemburg (Pinto 1944).

WHITE-THROATED SPADEBILL *Platyrinchus mystaceus*

Mentioned for Taquara (Ihering 1899), Farroupilha (Camargo 1962), Novo Hamburgo and Monte Negro (Pinto 1944). Besides these localities, Belton (1985) included in his proposed distribution of *P. mystaceus* in Rio Grande do Sul the state's extreme north and northeastern sectors, with one record for Garruchos. Common in the larger forest fragments studied (Arroio Andrade and Taquaral), less so in the smaller ones (Rincão da Caneleira, Arroio Cadeia, Santa Eulália and Santo Amor). These records extend the known distribution of this species by *c.* 200 km southwards.

GREENISH SCHIFFORNIS *Schiffornis virescens*

According to Belton (1985), in Rio Grande do Sul this species is a common resident in forests of the extreme north close to the Rio Pelotas and Rio Uruguai downstream to Garruchos, and uncommon in the vicinity of the escarpment from Torres to 52°30′W. Mentioned for Taquara by Ihering (1899). We found and tape-recorded isolated individuals of this species on two occasions (22 March and 10 October 1995) at Arroio Andrade. More common at Taquaral forest, where we recorded more than six territorial individuals in 5 November 1995. Our records extend this species' known distribution by *c.* 200 km to the south.

HOODED BERRYEATER *Carpornis cucullatus*

We found this endemic cotingid of the Brazilian Atlantic Forest in six forest remnants southwards to 31°34′S. In the smaller fragments (Rincão da Caneleira, Parque Farroupilha, Arroio do Padre and Santa Eulália) only two individuals were recorded, whereas at Arroio Cadeia four and at Arroio Andrade up to eight singing males were detected.

Previously mentioned in Rio Grande do Sul from Taquara and Pedras Brancas by Ihering (1899), Osório and Viamão by Camargo (1962) and Poço das Antas and Porto Alegre by Gliesch (1930). Belton (1985) limited the distribution of *C. cucullatus* between the northern littoral and the eastern end of the central trough (an area that covers the above mentioned localities) and additionally cited that Kaempfer found it in the southeastern hills, marking on his species map (Belton 1985: 89) two points south of 31°S without precise localities. Belton (*in litt.* 1995) informs us that one of the points (north of Pelotas) represents a site west of São Lourenço, at 122 m altitude, not mentioned by Naumburg (1935), where two specimens (nos. 321984 and 321985 housed in the American Museum of Natural History) were collected by Kaempfer on 14–15 October 1931, and that the other one (southwest of Pelotas) represents Ihering's (1899) citation for Serra do Herval. However, the Serra do Herval where Ihering heard this species is located north of 31°S, being the eastern watershed of the southeastern hills between the Rio Camaquã and Rio Jacuí, as indicated in his former works on Rio Grande do Sul's natural history (Ihering 1891, 1892). Therefore, Belton's interpretation of Ihering's citations is erroneous and clearly refers to the grassy hills around Herval (32°02′S, 53°24′W), a town located in the savanna domain (*sensu* Brasil 1986). Probably the distribution of *C. cucullatus* does not extend south of 31°40′S, coinciding with the limits of the originally forested region.

RED-RUFFED FRUITCROW *Pyroderus scutatus*

On 3 and 29 February 1995 we recorded two individuals at Arroio Cadeia and later found it regularly throughout the year at Arroio Andrade in numbers varying from one to five birds. Local residents informed us that in September and October groups of four or five individuals are seen in display, vocalizing intensely from the canopy. The nearest previous records and accepted southern limit for the species are Taquara (Ihering 1899) and Poço das Antas (Gliesch 1930), both located more than 250 km to the north of our study site. Besides these, Belton (1985) mentioned only two additional localities in Rio Grande do Sul with records of *P. scutatus*: Turvo state reserve and Garruchos.

CHESTNUT-HEADED TANAGER *Pyrrhocoma ruficeps*

We found this tanager only in four forest remnants: Arroio Andrade (up to three pairs), Arroio Cadeia (one pair), Arroio dos Porcos (three individuals) and Parque Farroupilha (male seen on 2 November 1993). Previously known in Rio Grande do Sul from Ihering's (1899) record for Taquara, Gliesch's (1930) for Santo Ângelo and Camargo's (1962) for Farroupilha. According to Belton (1985), the distribution of *P. ruficeps* covers forests north of 30°S and east of 54°W, and across the state north of 28°30′S (being absent from the highest areas of the extreme northeast), with a record from the southeastern hills near Santana da Boa Vista. Our records extend the known distribution of this tanager *c.* 100 km to the south.